

AMENDMENTS TO THE CLAIMS

1. (currently amended): A knee orthosis, comprising:
a medial tracking member that operatively fits along a lateral side of, and provides medial traction to, a patella having patellofemoral articular tissue; and
a concentrated, medial and posterior traction ~~and active, inward tracking~~ member that operatively fits over, and provides concentrated, medial and posterior ~~and active, inward~~ pressure against, the patella;
wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.
2. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior ~~and active, inward~~ pressure is applied through an intermittent and progressively increased tightening of the concentrated, medial and posterior traction ~~and active, inward tracking~~ member.
3. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member directly overlays the patella and the medial tracking member so that medial traction can be placed on the patella.
4. (original): The knee orthosis of claim 1 wherein the medial tracking member is adjustable to increase or decrease an amount of medial traction.
5. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is adjustable to increase or decrease an amount of inward pressure.
6. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.
7. (original): The knee orthosis of claim 6 wherein the continuous compressive force is substantially the same throughout the extension motion.
8. (original): The knee orthosis of claim 6 wherein the continuous compressive force increases

throughout the extension motion.

9. (original): The knee orthosis of claim 1 further comprising a polycentric hinge having an axis that maintains a parallel position with respect to an associated knee throughout a flexion or extension motion of the knee.
10. (currently amended): The knee orthosis of claim 9 wherein the polycentric hinge is bicentric and the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is operatively attached to the hinge and aligned substantially perpendicular to the hinge axis.
11. (currently amended): The knee orthosis of claim 10 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is mounted on the hinge, or operatively loops through a ring that is aligned parallel to the hinge axis.
12. (currently amended): The knee orthosis of claim 1 further comprising an elastic, breathable sleeve having attachment positions for anchoring and adjusting the medial tracking member and the concentrated, medial and posterior traction ~~and active, inward tracking~~ member.
13. (original): The knee orthosis of claim 1 wherein the medial tracking member comprises a synthetic tube that is covered with an elastic material, a raised spacing member, or a raised extension member.
14. (original): The knee orthosis of claim 1 wherein the ~~inward tracking~~ medial and posterior traction member comprises an elastic, adjustable strap.
15. (currently amended): A knee orthosis, comprising:
 - a concentrated, medial and posterior traction ~~and active, inward tracking~~ member that operatively fits over, and provides concentrated, medial and posterior ~~and active, inward~~ pressure against, a patella having patellofemoral articular tissue;
 - wherein the ~~inward tracking~~ medial and posterior traction member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.
16. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and

~~posterior and active, inward tracking~~ pressure is applied through an intermittent and progressively increased tightening of the concentrated, medial and posterior traction ~~and active, inward tracking~~ member.

17. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member directly overlays the patella and a medial tracking member so that medial traction can be placed on the patella.

18. (original): The knee orthosis of claim 15 wherein the medial tracking member is adjustable to increase or decrease an amount of medial traction.

19. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is adjustable to increase or decrease an amount of inward pressure.

20. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.

21. (original): The knee orthosis of claim 15 wherein the continuous compressive force is substantially the same throughout the extension motion.

22. (original): The knee orthosis of claim 15 further comprising a polycentric hinge having an axis that maintains a parallel position with respect to an associated knee throughout a flexion or extension motion of the knee.

23. (currently amended): The knee orthosis of claim 22 wherein the polycentric hinge is bicentric and the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is operatively attached to the hinge and aligned substantially perpendicular to the hinge axis.

24. (currently amended): The knee orthosis of claim 23 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member is mounted on the hinge, or operatively loops through a ring that is aligned parallel to the hinge axis.

25. (currently amended): The knee orthosis of claim 15 further comprising an elastic, breathable

sleeve having attachment positions for anchoring and adjusting a medial tracking member and the concentrated, medial and posterior traction ~~and active, inward tracking~~ member.

26. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and posterior traction ~~and active, inward tracking~~ member comprises an elastic strap.

27. (currently amended): An orthotic method for tracking a patella, comprising:
applying a medial tracking member that operatively fits along a lateral side of, and provides medial traction to, a patella having patellofemoral articular tissue; and
applying a concentrated, medial and posterior traction ~~and active, inward tracking~~ member that operatively fits over, and provides concentrated, medial and posterior ~~and active, inward~~ pressure against, the patella;
wherein the ~~inward~~ medial and posterior traction ~~and active, inward tracking~~ member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.

28. (currently amended): The method of claim 27 wherein the inward pressure is applied through an intermittent and progressively increased tightening of the concentrated, medial and posterior traction ~~and active, inward tracking~~ member.

29. (currently amended): The method of claim 28 wherein the medial traction applied through the intermittent and progressively increased tightening of the concentrated, medial and posterior traction ~~and active, inward tracking~~ member increasingly stretches lateral patellar connective tissue over time.

30. (cancelled)

31. (cancelled)

32. (currently amended): A knee orthosis, comprising:
a concentrated, medial and posterior traction ~~and active, inward pressure~~ strap that operatively fits over, and provides concentrated, medial and posterior ~~and active, inward~~ pressure against, a patella having patellofemoral articular tissue;
wherein the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap provides a compressive force against the patella, thereby increasing the contact surface area between

the patellofemoral articular tissue and an associated femoral trochlear groove.

33. (previously presented): The knee orthosis of claim 32 further comprising a medial tracking strap that operatively fits along a lateral side of, and provides medial traction to, the patella.

34. (currently amended): The knee orthosis of claim 33 wherein the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap directly overlays the patella and the medial tracking strap so that medial traction can be placed on the patella.

35. (previously presented): The knee orthosis of claim 34 wherein the medial tracking strap is adjustable to increase or decrease an amount of medial traction.

36. (currently amended): The knee orthosis of claim 32 wherein the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap is adjustable to increase or decrease an amount of inward pressure.

37. (currently amended): The knee orthosis of claim 36 wherein the concentrated, medial and posterior tracking ~~and active, inward pressure~~ strap provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.

38. (currently amended): The knee orthosis of claim 36 further comprising opposing lateral and medial hinges each having longitudinal axes that maintain a substantially parallel position with respect to an associated knee throughout a flexion or extension motion of the knee;

wherein a first opposing portion of the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap is operatively attached to the lateral hinge and a second opposing portion of the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap is operatively attached to the medial hinge, the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap being aligned substantially perpendicular to the longitudinal axes.

39. (currently amended): The knee orthosis of claim 38 further comprising an elastic, breathable sleeve having attachment positions for anchoring and adjusting the medial tracking strap and the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap.

40. (currently amended): An orthotic method for treating a patella, comprising:
applying a medial tracking strap that operatively fits along a lateral side of, and provides

medial traction to, a patella having patellofemoral articular tissue; and

applying a concentrated, medial and posterior traction ~~and active, inward pressure~~ strap that operatively fits over, and provides concentrated, medial and posterior ~~and active, inward~~ pressure against, the patella;

wherein the concentrated, medial and posterior traction ~~and active, inward pressure~~ strap provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.